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<b>(21) International Application Number:</b> PCT/DK00/00142 <b>(22) International Filing Date:</b> 24 March 2000 (24.03.00) <b>(30) Priority Data:</b> PA 1999 00415      26 March 1999 (26.03.99)      DK <b>(71) Applicant (for all designated States except US):</b> UPFRONT CHROMATOGRAPHY A/S [DK/DK]; Lersø Parkallé 42, DK-2100 Copenhagen Ø (DK). <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> OLANDER, Morten, Aae [DK/DK]; Røddinggade 3, 4.th., DK-1735 Copenhagen V (DK). LIHME, Allan, Otto, Fog [DK/DK]; Furesøbakken 13, DK-3460 Birkerød (DK). HOBLEY, Timothy, John [AU/DK]; Tyrolsgade 12, 2. th., DK-2300 Copenhagen S (DK). SIMON, Marcos [ES/DK]; Aalborggade 32, 2. tv., DK-2100 Copenhagen Ø (DK). THEODOSSIOU, Irini [GR/DK]; Ringstedgade 5, 4. th., DK-2100 Copenhagen Ø (DK). THOMAS, Owen, Robert, Tyrynis [GB/DK]; Ringstedgade 5, 4. th., DK-2100 Copenhagen Ø (DK). <b>(74) Agent:</b> PLOUGMANN, Vingtoft & PARTNERS A/S; Sankt Annæ Plads 11, P.O. Box 3007, DK-1021 Copenhagen K (DK).		<b>(81) Designated States:</b> AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, DZ, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (Utility model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> FLUIDISED BED PURIFICATION OF BIO-MACROMOLECULES SUCH AS PLASMID DNA, CHROMOSOMAL DNA, RNA, VIRAL DNA, BACTERIA AND VIRUSES		
<b>(57) Abstract</b>  <p>The present invention relates to particulate material having a density of at least 2.5 g/ml, where the particles of the particulate material have an average diameter of 5–75 µm, and the particles of the particulate material are essentially constructed of a polymeric base matrix, e.g. a polysaccharide such as agarose, and a non-porous core material, e.g. steel and titanium, said core material having a density of at least 3.0 g/ml, said polymeric base matrix including pendant groups which are positively charged at pH 4.0 or which are affinity ligands for a bio-molecule. Possible pendant groups include polyethyleneimine (PEI), diethylaminoethyl (DEAE) and quaternary aminoethyl (QAE). The materials are useful in expanded bed or fluidised bed chromatography processes, in particular for purification of bio-macromolecules such as plasmid DNA, chromosomal DNA, RNA, viral DNA, bacteria and viruses.</p>		